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EXAMINER	
WARE, CICELY Q	

ART UNIT	PAPER NUMBER
2634	6

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/804,676	SEAGRAVES, ERNEST	
	Examiner	Art Unit	
	Cicely Ware	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *28-31* is/are allowed.

6)☒ Claim(s) *1-7,8, 9,10-21,22, 23,25 and 26, 27* is/are rejected.

7)☒ Claim(s) *24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kao et al. (US Patent 6,084,906).

(1) With regard to claim 12, Kao et al. discloses an ADSL transceiver comprising a method for identifying a bitloading assignment for a multicarrier communication channel having a number of sub-channels, the method comprising: calculating a maximum number of bits that can be transmitted by each sub-channel; rounding the maximum number of bits that can be transmitted by each sub-channel to the nearest whole bit; calculating the maximum number of bits that can be transmitted by the multicarrier communication channel based on the rounded maximum number of bits that can be transmitted by each sub-channel; determining a target load of the multicarrier communication channel thereby defining a disposable bit capacity representing a delta value between the maximum number of bits that can be transmitted by the multicarrier communication channel and the target load of the multicarrier communication channel; identifying a maximum loaded sub-channel; decrementing the maximum loaded sub-channel by at least one bit; decrementing the delta value; and repeating the identifying step and the decrementing steps until the delta value is zero thereby producing a bitloading assignment that desensitizes the multicarrier communication channel to non-stationary noise (abstract, col. 4, lines 45-67, col. 5, lines 49-56, col. 7, lines 18-27, col. 12, lines 4-22, col. 13, lines 12-37, col. 14, lines 41-45, 48-53, col. 15, lines 1-5, col. 16, lines 27-29, col. 17, lines 57-58, col. 18, lines 43-45, 61-65).

(2) With regard to claim 14, claim 14 inherits all the limitations of claim 12. Kao et al. further discloses wherein the target load of the multicarrier communication channel is based on system configuration options (col. 12, lines 4-22).

(3) With regard to claim 15, claim 15 inherits all the limitations of claim 12. Kao et al. further discloses wherein the multicarrier communication channel is realized using digital multi-tone modulation (col. 2, lines 53-56, 60-64).

4. Claims 18-21 rejected under 35 U.S.C. 102(b) as being anticipated by Chow et al. (US Patent 5,479,447) (cited by applicant).

(1) With regard to claim 18, Chow et al. discloses a transceiver for identifying a bitloading assignment for a multicarrier communication channel having a number of sub-channels and a disposable bit capacity of one or more bits, the transceiver comprising: a bitloading assignment module for equalizing bit loadings of the sub-channels by selectively decrementing high bitload sub-channels until the disposable bit capacity is zero thereby producing a bitloading assignment for the multicarrier communication channel (col. 10, lines 31-39, 45-49).

(2) With regard to claim 19, claim 19 inherits all the limitations of claim 18. Chow et al. further discloses in (Fig. 6) a symbol decision and symbol-to-bit decoder module operatively coupled to the bitloading assignment module and for deriving a maximum capacity assignment from a bitmap that characterizes the multicarrier communication channel.

(3) With regard to claim 20, claim 20 inherits all the limitations of claim 18. Chow et al. further discloses wherein the high bitload sub-channels are decremented by a number of bits depending on at least one of the number of sub-channels of the multicarrier communication channel, the disposable bit capacity of the multicarrier communication channel, and a bitmap associated with the multicarrier communication channel (col. 10, lines 31-39).

(4) With regard to claim 21, claim 21 inherits all the limitations of claim 18. Chow et al. further discloses wherein the high bitload sub-channels are decremented one bit at a time (col. 10, lines 31-39).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-5,7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. (US Patent 6,456,649) in view of Hunt et al. (US Patent 5,400,322) (cited by applicant).

(1) With regard to claim 1, Isaksson et al. discloses a method for identifying a bitloading assignment for a multicarrier communication channel having a number of sub-channels, a maximum capacity assignment, and a disposable bit capacity of one or more bits, the method comprising: identifying a sub-channel having a maximum bit

loading relative to bit loadings of other sub-channels (abstract, col. 1, lines 22-29, col. 2, lines 19-28, 32-40, 46-65).

However Isaksson et al. does not disclose decrementing the bit loading of the identified sub-channel by at least one bit thereby reducing bit loading differences between the identified sub-channel and the other sub-channels; decrementing the disposable bit capacity by the number of bits the identified sub-channel loading was decremented; and repeating the identifying step and the decrementing steps until a desired degree of equalization between the sub-channel bit loadings is achieved thereby producing a bitloading assignment for the multicarrier communication channel.

However Hunt et al. discloses decrementing the bit loading of the identified sub-channel by at least one bit thereby reducing bit loading differences between the identified sub-channel and the other sub-channels; decrementing the disposable bit capacity by the number of bits the identified sub-channel loading was decremented; and repeating the identifying step and the decrementing steps until a desired degree of equalization between the sub-channel bit loadings is achieved thereby producing a bitloading assignment for the multicarrier communication channel (abstract, col. 1, lines 56-60, col. 3, lines 29-43, col. 5, lines 43-52, col. 6, lines 32-35, col. 7, lines 9-13, 47-51, col. 8, lines 6-12, 52-56, col. 9, lines 12-22, 59-64).

Therefore it would have been obvious to modify Isaksson et al. to incorporate decrementing the bit loading of the identified sub-channel by at least one bit thereby reducing bit loading differences between the identified sub-channel and the other sub-channels; decrementing the disposable bit capacity by the number of bits the identified

sub-channel loading was decremented; and repeating the identifying step and the decrementing steps until a desired degree of equalization between the sub-channel bit loadings is achieved thereby producing a bitloading assignment for the multicarrier communication channel in order to adapt bit allocations over time to achieve and maintain a reasonable, optimum set of bit allocations for the prevailing characteristics of the transmission channel (Hunt et al., col. 7, lines 47-50).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Isaksson et al. further discloses wherein the steps are carried out by a set of codes or instructions executed by a processor included in a transceiver of the multicarrier communication system (col. 2, lines 4-25).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Hunt et al. further discloses wherein in response to a number of sub-channels having the same maximum bit loading, the identifying step further includes: selecting one of the sub-channels having the same maximum bit loading based on a predefined selection scheme (col. 3,lines 20-43).

(4) With regard to claim 4, claim 4 inherits all the limitations of claim 1. Hunt et al. further discloses wherein the number of bits by which the identified sub-channel loading is decremented depends on at least one of the number of sub-channels of the multicarrier communication channel, the disposable bit capacity of the multicarrier communication channel, and a bitmap associated with the multicarrier communication channel (col. 3, lines 29-35).

(5) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Isaksson et al. further discloses transmitting the bitloading assignment to a remote transceiver operatively coupled to the multicarrier communication channel thereby allowing the remote transceiver to use the bitloading assignment in performing bitloading (col. 1, lines 5-10).

(6) With regard to claim 7, claim 7 inherits all the limitations of claim 1. Hunt et al. further discloses wherein the bitloading assignment produced by the method desensitizes the multicarrier communication channel to non-stationary noise (col. 1, lines 52-60).

(7)With regard to claim 11, claim 11 inherits all the limitations of claim 1. Isaksson et al. further discloses wherein the maximum capacity assignment of the multicarrier communication channel is in the form of a bit vector upon which the method operates (abstract, col. 8, lines 1-5, 56-62).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. (US Patent 6,456,649) in combination with Hunt et al. (US Patent 5,400,322) (cited by applicant) as applied to claim 1 above, and further in view of Kao et al. (US Patent 6,084,906).

With regard to claim 6, claim 6 inherits all the limitations of claim 1. Isaksson et al. in combination with Hunt et al. disclose all the limitations of claim 1 above. However Isaksson et al. in combination with Hunt et al. do not disclose wherein the desired

degree of equalization between the sub-channel bit loadings is achieved when the disposable bit capacity is zero.

However Kao et al. discloses wherein the desired degree of equalization between the sub-channel bit loadings is achieved when the disposable bit capacity is zero (col. 4, lines 45-67).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Isaksson et al. in combination with Hunt et al. to incorporate wherein the desired degree of equalization between the sub-channel bit loadings is achieved when the disposable bit capacity is zero because the power of the sub-channel starts at an initial power margin of zero dB in order for each sub-channel to be filled to its maximum capacity (Kao et al., col. 4, lines 46-49).

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. (US Patent 6,456,649) in combination with Hunt et al. (US Patent 5,400,322) (cited by applicant) as applied to claim 1 above, and further in view of Long et al. (US Patent 6,623,704).

(1) With regard to claim 8, claim 8 inherits all the limitations of claim 1. Isaksson et al. in combination with Hunt et al. disclose all the limitations of claim 1 above. However Isaksson et al. in combination with Hunt et al. do not disclose wherein the multicarrier communication channel is realized with an ADSL Annex C transceiver pair coupled to one another via a transmission line.

However Long et al. discloses ADSL transceivers wherein the multicarrier communication channel is realized with an ADSL Annex C transceiver pair coupled to one another via a transmission line (abstract, col. 1, lines 8-12, 33-36, col. 2, lines 1-5, 17-19).

Therefore it would have been obvious to one of ordinary skill in the at to modify the inventions of Isaksson et al. in combination with Hunt et al. to incorporate wherein the multicarrier communication channel is realized with an ADSL Annex C transceiver pair coupled to one another via a transmission line in order to train the equalizer of an ADSL Annex C transceiver so as to achieve optimal communication channel performance (Long et al., col. 2, lines 59-67).

(2) With regard to claim 9, claim 9 inherits all the limitations of claim 1. Long et al. further discloses wherein the multicarrier communication channel is effectively two different channels, one being a FEXT time channel and the other being a NEXT time channel, each effective channel having a unique maximum capacity assignment upon which the method operates thereby producing a first bitloading assignment for the FEXT channel and a second bitloading assignment for the NEXT channel (abstract, col. 1, lines 40-43, col. 2, lines 20-31, 38-42, col. 7, lines 66-67, col. 8, lines 1-11).

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. (US Patent 6,456,649) in combination with Hunt et al. (US Patent 5,400,322) (cited by applicant) as applied to claim 1 above, and further in view of Chow et al. (US Patent 5,479,447) (cited by applicant).

With regard to claim 10, claim 10 inherits all the limitations of claim 1. Isaksson et al. in combination with Hunt et al. disclose all the limitations of claim 1 above. However Isaksson et al. in combination with Hunt et al. do not disclose wherein the maximum capacity assignment of the multicarrier communication channel is derived from a bitmap prepared during a bitloading training session.

However Chow et al. discloses wherein the maximum capacity assignment of the multicarrier communication channel is derived from a bitmap prepared during a bitloading training session (col. 7, lines 54-67, 1-29).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Isaksson et al. in combination with Hunt et al. to incorporate wherein the maximum capacity assignment of the multicarrier communication channel is derived from a bitmap prepared during a bitloading training session in order to optimize the system on a line-by-line basis, to provide for calculating the optimal transmission bandwidth during on-line system initialization (Chow et al., col. 5, lines 28-34).

10. Claim 13 and16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (US Patent 6,084,906) as applied to claim 12 above, in view of Chow et al. (US Patent 5,479,447).

(1) With regard to claim 13, claim 13 inherits all the limitations of claim 12 above. However Kao et al. does not disclose wherein the maximum number of bits that can be transmitted by each sub-channel, and the maximum number of bits that can be transmitted by the multicarrier communication channel are derived from a bitmap

resulting from a bitloading training sequence, the bitmap characterizing the signal to noise ratio of the multicarrier communication channel.

However Chow et al. discloses wherein the maximum number of bits that can be transmitted by each sub-channel, and the maximum number of bits that can be transmitted by the multicarrier communication channel are derived from a bitmap resulting from a bitloading training sequence, the bitmap characterizing the signal to noise ratio of the multicarrier communication channel (col. 7, lines 49-67, col. 8, lines 1-29, col. 10, lines 1-18).

Therefore it would have been obvious to one of ordinary skill in the art to modify Kao et al. to incorporate discloses wherein the maximum number of bits that can be transmitted by each sub-channel, and the maximum number of bits that can be transmitted by the multicarrier communication channel are derived from a bitmap resulting from a bitloading training sequence, the bitmap characterizing the signal to noise ratio of the multicarrier communication channel in order to optimize the system on a line-by-line basis which provides for calculating the optimal transmission bandwidth during on-line system initialization (Chow et al., col. 5, lines 28-34).

(2) With regard to claim 16, claim 16 inherits all the limitations of claim 12. Chow et al. further discloses wherein in response to identifying more than one maximum loaded sub-channel thereby requiring a selection to be made, the method further includes: calculating a round off error for each sub-channel; and selecting the maximum loaded sub-channel having the greatest round off error (col. 8, lines 10-29).

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (US Patent 6,084,906) as applied to claim 12 above, in view of Hunt et al. (US Patent 5,400,322).

With regard to claim 17, claim 17 inherits all the limitations of claim 12 above. However Kao et al. does not disclose wherein in response to identifying more than one maximum loaded sub-channel thereby requiring a selection to be made, the method further includes: selecting the maximum loaded sub-channel based on a predefined selection scheme.

However Hunt et al. discloses wherein in response to identifying more than one maximum loaded sub-channel thereby requiring a selection to be made, the method further includes: selecting the maximum loaded sub-channel based on a predefined selection scheme (col. 3,lines 20-43).

Therefore it would have been obvious to one of ordinary skill in the art to modify Kao et al. to incorporate wherein in response to identifying more than one maximum loaded sub-channel thereby requiring a selection to be made, the method further includes: selecting the maximum loaded sub-channel based on a predefined selection scheme in order to optimize the system on a line-by-line basis which provides for calculating the optimal transmission bandwidth during on-line system initialization (Chow et al., col. 5, lines 28-34).

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. (US Patent 5,479,447) (cited by applied) as applied to claim 18 above, in view of Long et al. (US Patent 6,628,704).

With regard to claim 24, claim 24 inherits all the limitations of claim 18. However Chow et al. does not disclose wherein the multicarrier communication channel is effectively two different channels, one being a FEXT time channel and the other being a NEXT time channel, each effective channel having a unique maximum capacity assignment upon which the method operates thereby producing a first bitloading assignment for the FEXT channel and a second bitloading assignment for the NEXT channel.

However Long et al. discloses ADSL transceivers wherein the multicarrier communication channel is effectively two different channels, one being a FEXT time channel and the other being a NEXT time channel, each effective channel having a unique maximum capacity assignment upon which the method operates thereby producing a first bitloading assignment for the FEXT channel and a second bitloading assignment for the NEXT channel (abstract, col. 1, lines 40-43, col. 2, lines 20-31, 38-42, col. 7, lines 66-67, col. 8, lines 1-11).

Therefore it would have been obvious to one of ordinary skill in the art to modify Chow et al. to incorporate multicarrier communication channel is effectively two different channels, one being a FEXT time channel and the other being a NEXT time channel, each effective channel having a unique maximum capacity assignment upon which the method operates thereby producing a first bitloading assignment for the FEXT channel

and a second bitloading assignment for the NEXT channel in order to train the equalizer of an ADSL Annex C transceiver so as to achieve optimal communication channel performance (Long et al., col. 2, lines 59-67).

13. Claim 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. (US Patent 5,479,447) (cited by applied) as applied to claim 18 above, in view of Hunt et al. (US Patent 5,400,322) (cited by applicant).

(1) With regard to claim 23, claim 23 inherits all the limitations of claim 18 above. However Chow et al. does not disclose wherein the bitloading assignment is enhanced in that it desensitizes the multicarrier communication channel to non-stationary noise.

However Hunt et al. discloses wherein the bitloading assignment is enhanced in that it desensitizes the multicarrier communication channel to non-stationary noise (col. 1, lines 52-60).

Therefore it would have been obvious to one of ordinary skill in the art to modify Chow et al. to incorporate wherein the bitloading assignment is enhanced in that it desensitizes the multicarrier communication channel to non-stationary noise in order to update the allocation of bits during operation of the system (Chow et al., col. 1, lines 56-58).

(2) With regard to claim 26, claim 26 inherits all the limitations of claim 18. Hunt et al. further discloses wherein the bitloading assignment module selects a high bitload sub-channel for decrementing based on a predefined selection scheme (col. 3,lines 20-43).

14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. (US Patent 5,479,447) (cited by applied) as applied to claim 18 above, in view of Isaksson et al. (US Patent 6,456,649).

With regard to claim 25, claim 25 inherits all the limitations of claim 18. However Chow et al. does not disclose wherein the bitloading assignment is in the form of a bit vector upon which the bitloading assignment module operates.

However Isaksson et al. discloses wherein the bitloading assignment is in the form of a bit vector upon which the bitloading assignment module operates (abstract, col. 8, lines 1-5, 56-62).

Therefore it would have been obvious to one of ordinary skill in the art to modify Chow et al. to incorporate wherein the bitloading assignment is in the form of a bit vector upon which the bitloading assignment module operates in order to transmit a fixed number of bits per channel with varying user data content (Isaksson et al., col. 2, lines 26-28).

15. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isaksson et al. (US Patent 6,456,649) in combination with Hunt et al. (US Patent 5,400,322) (cited by applicant) as applied to claim 1 above, and further in view of Long et al. (US Patent 6,628,704).

With regard to claim 27, claim 27 inherits all the limitations of claim 1. Isaksson et al. in combination with Hunt et al. disclose all the limitations of claim 1. However Isaksson et al. in combination with Hunt et al. do not disclose a method for identifying a

bitloading assignment for an ADSL Annex C multicarrier communication channel and producing a bitloading assignment that desensitizes the ADSL Annex C multicarrier communication channel to non-stationary noise.

However Long et al. discloses a method for identifying a bitloading assignment for an ADSL Annex C multicarrier communication channel and producing a bitloading assignment that desensitizes the ADSL Annex C multicarrier communication channel to non-stationary noise (abstract, col. 1, lines 8-12, 33-36, col. 2, lines 17-31, 38-42, col. 7, lines 45-55, 66-67, col. 8, lines 1-11).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Isaksson et al. in combination with Hunt et al. to incorporate a method for identifying a bitloading assignment for an ADSL Annex C multicarrier communication channel and producing a bitloading assignment that desensitizes the ADSL Annex C multicarrier communication channel to non-stationary noise in order to order to train the equalizer of an ADSL Annex C transceiver so as to achieve optimal communication channel performance (Long et al., col. 2, lines 59-67).

Allowable Subject Matter

16. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 28-31 are allowed.

18. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method for identifying a bitloading assignment for a multicarrier communication channel having a number of sub-channels, a maximum capacity assignment, and a disposable bit capacity of one or more bits. Prior art reference show similar methods but fail to teach a method for identifying a bitloading assignment for an ADSL Annex C multicarrier communication channel having a FEXT channel, a NEXT channel, and an overall target bit capacity as in claims 28-31, along with the remaining limitations of the independent claims.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
May 20, 2004

STEPHEN CHIN
SUPERVISORY PATENT EXAMIN
TECHNOLOGY CENTER 2600